

## ABSTRACT OF THE DISCLOSURE

An electrochemical machining apparatus comprises a machining chamber for holding ultrapure water, a cathode/anode immersed in the ultrapure water held in the machining chamber, and a workpiece holding portion for holding a workpiece at a predetermined distance from the cathode/anode so that a surface, to be machined, of the workpiece is brought into contact with the ultrapure water. The electrochemical machining apparatus further comprises an anode/cathode contact brought into contact with the workpiece held by the workpiece holding portion so that the workpiece serves as an anode/cathode, a catalyst having a strongly basic anion exchange function or a strongly acidic cation exchange function, a power source for applying a voltage between the cathode/anode and the workpiece, and a moving mechanism for relatively moving the workpiece and the catalyst. The catalyst is disposed between the cathode/anode and the workpiece held by the workpiece holding portion.